

# Quality Assurance/Quality Control Checklist

Revised May 13, 2005

Project Name: \_\_\_\_\_

Project Number: \_\_\_\_\_

Prepared By:

Environmental Clearance: \_\_\_\_\_ Date: \_\_\_\_\_

ROW Plans: \_\_\_\_\_ Date: \_\_\_\_\_

Permits: \_\_\_\_\_ Date: \_\_\_\_\_

Construction Plans: \_\_\_\_\_

Construction Specifications: \_\_\_\_\_

Construction Estimate: \_\_\_\_\_

Construction CPM: \_\_\_\_\_

Preliminary Design QA/QC Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

Intermediate Design QA/QC Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

Plan-In-Hand Design QA/QC Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

Final PS&E Design QA/QC Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

Abbreviations used in the following checklist:

**OK** – means that the checklist item has been checked and found to be satisfactory

**No** – means that the checklist item was checked and found deficient. Explanatory comments added in the item box or in a supplementary report.

**CPM** – Critical Path Method

**DNC** – did not check

**DOE** – Design Operations Engineer

**DQ&S** – Design Quality and Safety

**N/A** – not applicable for this project.

**PS&E** – Plans, Specifications, and Estimate

**QA/QC** – Quality Assurance/Quality Control.

**ROW** – Right-of-Way

**SCR's** – Special Contract Requirements

**UPA** – Unit Price Analysis

**Shaded areas** – Areas that are shaded are not considered mandatory for review.

**P.** refers to a page number in *AASHTO Policy in Geometric Design of Roads and Streets 2001*

The “**AS DESIGNED**” column is for the **QA/QC reviewer**.

The “**AS REVISED**” column is for **follow-up review** after the designer has made any corrections before the review package is made available for client review.

Items that are checked “**NO**” or “**DNC**” must be checked at subsequent reviews

**Preliminary Design** is considered complete when the environmental document has been drafted and signed. Design alternatives are completed to the level required to produce the appropriate document. Preliminary surveys and engineering investigations (Geotech, Hydraulics, etc.) have been performed.

**Intermediate Design** is considered complete when design information is detailed enough to establish right-of-way limits and for the application of any required permits. This may require the completion of drainage design and staking of construction limits. The WFLHD-3 (Highway Design Standards) form should be approved by the DOE and DQ&S Engineer.

**Plan-in-Hand Design** is considered complete when all design elements have been incorporated into the plan set for the purpose of a thorough field review. A complete plan set, cost estimate, and draft SCR's are provided for both internal and external reviews.

**Final Design** is considered complete when the PS&E package is approved by the cooperating agency(s) as indicated by final concurrence at the end of the final review process. The package should include a detailed CPM schedule.

| COMMENTS |  | Preliminary Design (30%) |            | Intermediate Design (50%) |            | Plan-in-Hand (70%) |            | Final PS&E (95%) |            |
|----------|--|--------------------------|------------|---------------------------|------------|--------------------|------------|------------------|------------|
|          |  | AS DESIGNED              | AS REVISED | AS DESIGNED               | AS REVISED | AS DESIGNED        | AS REVISED | AS DESIGNED      | AS REVISED |
|          | <b>DESIGN CRITERIA</b>   |                          |            |                           |            |                    |            |                  |            |
|          | <b><u>HORIZONTAL ALIGNMENT</u></b>   |                          |            |                           |            |                    |            |                  |            |
| A.1      | Design exception avoided or documented.  |                          |            |                           |            |                    |            |                  |            |
| A.2      | Adequate spiral length. P. 157-165, P. 170, P. 179, P. 181   |                          |            |                           |            |                    |            |                  |            |
| A.3      | Broken-back curves avoided   |                          |            |                           |            |                    |            |                  |            |
| A.4      | Compound curves. No Point on Curve (POC) P. 205-206, P. 233-234  |                          |            |                           |            |                    |            |                  |            |
| A.5      | Minimum curve length for small central angles provided. P. 233-234   |                          |            |                           |            |                    |            |                  |            |
| A.6      | Stopping sight distance.   |                          |            |                           |            |                    |            |                  |            |
| A.7      | Use unique stationing for designed approaches and secondary roads.   |                          |            |                           |            |                    |            |                  |            |
|          |  |                          |            |                           |            |                    |            |                  |            |
|          | <b><u>VERTICAL ALIGNMENT</u></b>   |                          |            |                           |            |                    |            |                  |            |
| B.1      | Design exception avoided or documented.  |                          |            |                           |            |                    |            |                  |            |
| B.2      | Grades flatter than 0.5%. P. 242.  |                          |            |                           |            |                    |            |                  |            |
| B.3      | Stopping sight distance  |                          |            |                           |            |                    |            |                  |            |
| B.4      | Round vertical curve length  |                          |            |                           |            |                    |            |                  |            |
| B.5      | Minimum length of vertical curve. (K value)  |                          |            |                           |            |                    |            |                  |            |
| B.6      | Ditch profile (Check if special ditches are needed for drainage)   |                          |            |                           |            |                    |            |                  |            |
| B.7      | Minimum gradient for curbed sections.<br>Drop inlets in curb sections  |                          |            |                           |            |                    |            |                  |            |
| B.8      | Overhead utility crossings   |                          |            |                           |            |                    |            |                  |            |
|          |  |                          |            |                           |            |                    |            |                  |            |
|          | <b><u>ALIGNMENT CONSISTENCY</u></b>  |                          |            |                           |            |                    |            |                  |            |
| C.1      | Horizontal and vertical alignments match criteria and exceptions listed on WFLHD-3 (Western Federal Lands Highway Division Highway Design Standards) |                          |            |                           |            |                    |            |                  |            |
| C.2      | Horizontal and vertical alignments are coordinated (horizontal curves should be superimposed on vertical curves) P. 233 & P. 234                     |                          |            |                           |            |                    |            |                  |            |
| C.3      | Horizontal curves should be longer than superimposed vertical curves.  |                          |            |                           |            |                    |            |                  |            |
| C.4      | Horizontal curves should not be hidden behind crest vertical curves.   |                          |            |                           |            |                    |            |                  |            |
| C.5      | Minimum radius horizontal curves should not be superimposed on pronounced crest or sag vertical curves.  |                          |            |                           |            |                    |            |                  |            |
| C.6      | Variation in operating speed between long curves or long tangents (>500 m) and the adjacent curve less than 20 km/hr (10 mph)                        |                          |            |                           |            |                    |            |                  |            |
| C.7      | Proper connection to structure(s) and existing   |                          |            |                           |            |                    |            |                  |            |

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|          |  |  | AS DESIGNED              | AS REVISED | AS DESIGNED               | AS REVISED | AS DESIGNED        | AS REVISED | AS DESIGNED      | AS REVISED |
|          |  | roadway.   |                          |            |                           |            |                    |            |                  |            |
|          |  | <b><u>SUPERELEVATION</u></b>   |                          |            |                           |            |                    |            |                  |            |
| D.1      |  | Super-elevation for each horizontal curve is according to AASHTO Tables for the design speed and maximum super-elevation rate. Checks with WFLHD-3.doc. P. 156-165                       |                          |            |                           |            |                    |            |                  |            |
| D.2      |  | Snow and ice conditions considered in the selection of the maximum super-elevation rate.   |                          |            |                           |            |                    |            |                  |            |
| D.3      |  | Super-elevation distributed correctly on simple curves if spirals are not used. P. 175   |                          |            |                           |            |                    |            |                  |            |
| D.4      |  | Minimum length of superelevation runoff provided according to AASHTO (P. 156-165)  |                          |            |                           |            |                    |            |                  |            |
| D.5      |  | Super-elevation run out (including super-elevation transition in areas of short intervening tangents between reversing curves) is at the same rate as super-elevation runoff or flatter. |                          |            |                           |            |                    |            |                  |            |
| D.6      |  | Roll over is less than or equal to 8% between traveled way and shoulder?   |                          |            |                           |            |                    |            |                  |            |
| D.7      |  | Where compound curves are necessary are adjacent curves sized and superelevated correctly? P. 234  |                          |            |                           |            |                    |            |                  |            |
|          |  | <b><u>CROSS SECTION</u></b>  |                          |            |                           |            |                    |            |                  |            |
| E.1      |  | Surfacing slopes provided according to AASHTO (1:4 or flatter preferred; 1:3 steepest)   |                          |            |                           |            |                    |            |                  |            |
| E.2      |  | Ditch slopes match surfacing slopes and provide a 1' (0.3m) minimum ditch depth below the subgrade shoulder.   |                          |            |                           |            |                    |            |                  |            |
| E.3      |  | Aesthetic cut and fill slopes ratio guideline followed. (PDDM Table 9-8)   |                          |            |                           |            |                    |            |                  |            |
| E.4      |  | Curve widening provided. P.215-217   |                          |            |                           |            |                    |            |                  |            |
| E.5      |  | Clear zone width criteria met.   |                          |            |                           |            |                    |            |                  |            |
| E.6      |  | Standard lane, shoulder, and median widths being proposed.   |                          |            |                           |            |                    |            |                  |            |
| E.7      |  | Temporary pavement structure adequate for both public and construction traffic.  |                          |            |                           |            |                    |            |                  |            |
| E.8      |  | Proper offset provided between travel lane and raised islands. Proper median opening widths provided.  |                          |            |                           |            |                    |            |                  |            |
| E.9      |  | Proper easements (temporary & permanent) obtained for construction of driveways, drainage structures, outlet or inlet ditches, temporary diversion channels, and sediment basins         |                          |            |                           |            |                    |            |                  |            |
| E.10     |  | Designed to include proper guardrail flare rates & offsets to terminal ends  |                          |            |                           |            |                    |            |                  |            |
| E.11     |  | Pedestrian and bicycle safety considered (proper separation between travel way and   |                          |            |                           |            |                    |            |                  |            |

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|          |  |  | AS DESIGNED              | AS REVISED | AS DESIGNED               | AS REVISED | AS DESIGNED        | AS REVISED | AS DESIGNED      | AS REVISED |
|          |  | bicycle/pedestrian facilities, proper width of facility etc.)  |                          |            |                           |            |                    |            |                  |            |
| E.12     |  | Sufficient distance provided behind roadside barriers for deflection   |                          |            |                           |            |                    |            |                  |            |
| E.13     |  | Above ground appurtenances considered for construction conflicts (temporary widening, equipment requirements such as clear area for swinging cranes, etc.) |                          |            |                           |            |                    |            |                  |            |
| E.14     |  | Existing utility locations considered for all temporary work both above and below ground   |                          |            |                           |            |                    |            |                  |            |
| E.15     |  | Widening for mailboxes, turnouts, parking areas, etc.  |                          |            |                           |            |                    |            |                  |            |
| E.16     |  | Use shrink/swell factors from Geotechnical recommendations to determine earthwork balance.   |                          |            |                           |            |                    |            |                  |            |
| E.17     |  | Guardrail sections are consistent with standard drawings where applicable  |                          |            |                           |            |                    |            |                  |            |
| E.18     |  | Retaining walls plotted on cross sections for the project where applicable   |                          |            |                           |            |                    |            |                  |            |
| E.19     |  | Show rock buttresses, rock blankets, rock catch basins, special drainage details, etc.   |                          |            |                           |            |                    |            |                  |            |
| E.20     |  | Catch basins accounted for in earthwork design   |                          |            |                           |            |                    |            |                  |            |
| E.21     |  | Plotted drainage cross-sections available for all minor drainage culvert pipes (plotted along the skew as needed).   |                          |            |                           |            |                    |            |                  |            |
|          |  |  |                          |            |                           |            |                    |            |                  |            |
|          |  | <b><u>INTERSECTIONS</u></b>  |                          |            |                           |            |                    |            |                  |            |
| F.1      |  | Intersecting roadways angles meet AASHTO standards. P. 584, P.586.   |                          |            |                           |            |                    |            |                  |            |
| F.2      |  | Design platform area of sufficient length for vehicles coming to a stop condition. ( $\pm 2\%$ design desirable)   |                          |            |                           |            |                    |            |                  |            |
| F.3      |  | Minimum stopping sight distances at intersection. P. 654 - 680   |                          |            |                           |            |                    |            |                  |            |
| F.4      |  | Proper turning radii and widths at intersections.  |                          |            |                           |            |                    |            |                  |            |
| F.5      |  | Sufficient acceleration/deceleration lane lengths for speed conditions and storage.  |                          |            |                           |            |                    |            |                  |            |
|          |  |  |                          |            |                           |            |                    |            |                  |            |
|          |  | <b><u>RIGHT-OF-WAY</u></b>   |                          |            |                           |            |                    |            |                  |            |
| G.1      |  | ROW limits shown on the plans are correct, properly labeled, and match the ROW plans for acquisition   |                          |            |                           |            |                    |            |                  |            |
| G.2      |  | Clearing limits are contained within the ROW/construction easement limits.   |                          |            |                           |            |                    |            |                  |            |
| G.3      |  | ROW includes sight triangle at intersections.  |                          |            |                           |            |                    |            |                  |            |

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|----------|--|---|--------------------------|------------|---------------------------|------------|--------------------|------------|------------------|------------|
|          |  |   | AS DESIGNED              | AS REVISED | AS DESIGNED               | AS REVISED | AS DESIGNED        | AS REVISED | AS DESIGNED      | AS REVISED |
|          |  |   |                          |            |                           |            |                    |            |                  |            |
|          |  | <b><u>UTILITIES</u></b>                                       |                          |            |                           |            |                    |            |                  |            |
| H.1      |  | Utility agreements are incorporated                           |                          |            |                           |            |                    |            |                  |            |
| H.2      |  | Overhead utility crossings considered for height restrictions |                          |            |                           |            |                    |            |                  |            |
| H.3      |  | Check existing utility locations for conflicts.               |                          |            |                           |            |                    |            |                  |            |
|          |  |   |                          |            |                           |            |                    |            |                  |            |
|          |  | <b><u>WFLHD-3 -DESIGN STANDARDS AND EXCEPTIONS FORM</u></b>   |                          |            |                           |            |                    |            |                  |            |
| I.1      |  | WFLHD-3 completed with design exceptions noted and justified. |                          |            |                           |            |                    |            |                  |            |
| I.2      |  | WFLHD-3 approved by DOE & Design Quality and Safety Engineer  |                          |            |                           |            |                    |            |                  |            |
| I.3      |  | WFLHD-3 is completed with all necessary signatures            |                          |            |                           |            |                    |            |                  |            |
|          |  |   |                          |            |                           |            |                    |            |                  |            |
|          |  | <b><u>ENVIRONMENTAL CLEARANCE</u></b>                         |                          |            |                           |            |                    |            |                  |            |
| J.1      |  | Completed Environmental Checklist provided by environment.    |                          |            |                           |            |                    |            |                  |            |

| COMMENTS |  |  | Preliminary Design (30%)<br>LINE & GRADE |            | Intermediate Design (50%)<br>FOR PERMITS & ROW |            | Plan-in-Hand (70%)<br>DRAFT PS&E PACKAGE |            | Final PS&E (95%)<br>FINAL PS&E |            |
|----------|--|--|--|------------|--|------------|--|------------|--------------------------------|------------|
|          |  |  | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |

|      |  |   |  |  |  |  |  |  |  |  |
|------|--|---|--|--|--|--|--|--|--|--|
|      |  | <b>PLANS IN GENERAL</b>   |  |  |  |  |  |  |  |  |
| K.1  |  | Appropriate units used (Metric or US Cust.)   |  |  |  |  |  |  |  |  |
| K.2  |  | Do not use "Station" or "Sta" as a prefix to station numbers.   |  |  |  |  |  |  |  |  |
| K.3  |  | Design book has all pay items supported with calculations and unit price analysis.  |  |  |  |  |  |  |  |  |
| K.4  |  | Plan format consistent with Standard Format for Plans, WFLHD Procedure 9.6.A-1  |  |  |  |  |  |  |  |  |
| K.5  |  | WLFHD Conventional Details and symbology used consistently throughout plans & legend employed as appropriate.<br><br>When a special symbol is required, show it in a legend on either the first plan sheet the symbol appears or on the left of the first plan-profile sheet. Abbreviations not shown may be placed on the plans as symbols, or added to the contract SCR's under Subsection 101.03 |  |  |  |  |  |  |  |  |
| K.6  |  | Match call outs for work items to pay item descriptions   |  |  |  |  |  |  |  |  |
| K.7  |  | Use accepted naming convention for plan sheets.   |  |  |  |  |  |  |  |  |
| K.8  |  | Work item locations consistent throughout plans   |  |  |  |  |  |  |  |  |
| K.9  |  | Schedules/Options identified (if used)  |  |  |  |  |  |  |  |  |
| K.10 |  | Offset curvature considered. (For example, fencing length, guardrail length, wall design. etc)  |  |  |  |  |  |  |  |  |
| K.11 |  | Cross reference sheet numbers, and footnotes correct.   |  |  |  |  |  |  |  |  |
| K.12 |  | Notes are clear, concise, descriptive, and as brief as possible to convey message. Do NOT include on plan sheets any instructions covered in the specifications or information that would be more appropriate in the specifications.  |  |  |  |  |  |  |  |  |
| K.13 |  | "Designed by", "Checked by" and "Date" is filled out on all sheets except Standard Drawings. Also included is filename and date.  |  |  |  |  |  |  |  |  |
| K.14 |  | Applicable Standard Drawings included   |  |  |  |  |  |  |  |  |
| K.15 |  | Revise title block of Standard Drawing if changes were made.  |  |  |  |  |  |  |  |  |
| K.16 |  | North arrow is used on all plans  |  |  |  |  |  |  |  |  |
| K.17 |  | Details are readable with adequate information  |  |  |  |  |  |  |  |  |

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|----------|--|---|--|---------------|--|---------------|--|---------------|--------------------------------|---------------|
|          |  |   | AS<br>DESIGNED                           | AS<br>REVISED | AS<br>DESIGNED                                 | AS<br>REVISED | AS<br>DESIGNED                           | AS<br>REVISED | AS<br>DESIGNED                 | AS<br>REVISED |
| K.18     |  | Boundary lines, State, County, City Township, range, and section numbers included, as applicable.<br>Where ties are shown to section corners that fall off sheet, break the line and show the corner with tie distance. Describe corners and coordinates. |  |               |  |               |  |               |                                |               |
| K.19     |  | Include Ownership (name and parcel number) as applicable.   |  |               |  |               |  |               |                                |               |
| K.20     |  | Scale is provided, as applicable. Graphic scale bar is preferred.   |  |               |  |               |  |               |                                |               |
| K.21     |  | Correct item numbers, descriptions, pay units.  |  |               |  |               |  |               |                                |               |
| K.22     |  | Used correct number of decimal places in the quantities (Contact Contract Administration Specialist for guidance)   |  |               |  |               |  |               |                                |               |
| K.23     |  | Estimating values are shown in tables where appropriate.  |  |               |  |               |  |               |                                |               |
| K.24     |  | Summary table quantities are correlated with plan-profile details and Summary of Quantities.  |  |               |  |               |  |               |                                |               |
| K.25     |  | Quantity totals are correct.  |  |               |  |               |  |               |                                |               |
| K.26     |  | Tabulations in quantity tables show how a quantity is developed (station ranges, etc.)  |  |               |  |               |  |               |                                |               |
| K.27     |  | Tables are arranged by increasing pay item number.  |  |               |  |               |  |               |                                |               |

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|----------|--|--|--|------------|--|------------|--|------------|--------------------------------|------------|
|          |  |  | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |

|      |   |  |  |  |  |  |  |  |  |  |
|------|---|--|--|--|--|--|--|--|--|--|
|      | <b>SECTION A</b>  |  |  |  |  |  |  |  |  |  |
|      | <b><u>TITLE SHEET/VICINITY MAP</u></b>  |  |  |  |  |  |  |  |  |  |
| L.1  | Title and project designation   |  |  |  |  |  |  |  |  |  |
| L.2  | Length of project (agrees with stationing shown on vicinity map and on the plan sheets)   |  |  |  |  |  |  |  |  |  |
| L.3  | County, State, National Park, Forest, etc. noted as appropriate   |  |  |  |  |  |  |  |  |  |
| L.4  | Graphic scale bar shown   |  |  |  |  |  |  |  |  |  |
| L.5  | FP-XX specification reference or standard specification to be used for the project noted.   |  |  |  |  |  |  |  |  |  |
| L.6  | Type of construction identified   |  |  |  |  |  |  |  |  |  |
| L.7  | Design consultant logo and PE stamp, if applicable. Place lower at left corner and at less than 2/3 size of FHWA logo. Do not show address or phone number on logo. |  |  |  |  |  |  |  |  |  |
| L.8  | Index to Sheets & Standard Drawings<br>Sheet description should match the sheet's title block.  |  |  |  |  |  |  |  |  |  |
| L.9  | Key map of state showing project location   |  |  |  |  |  |  |  |  |  |
| L.10 | Check design designation data:<br>➤ ADT<br>➤ Design years ADT<br>➤ Directional (D) if applicable<br>➤ % Trucks, if available<br>➤ V (speed)<br>➤ e(max)             |  |  |  |  |  |  |  |  |  |
| L.11 | Provision for dates and signatures for the appropriate approving officials  |  |  |  |  |  |  |  |  |  |
| L.12 | Consultant title block (if applicable)  |  |  |  |  |  |  |  |  |  |
|      | <b><u>LOCATION MAP (Title sheet or Vicinity map)</u></b>  |  |  |  |  |  |  |  |  |  |
| L.13 | ➤ Begin, Suspend, Resume, and End Project stationing accurate   |  |  |  |  |  |  |  |  |  |
| L.14 | ➤ Schedules/Options identified (if used)  |  |  |  |  |  |  |  |  |  |
| L.15 | ➤ Dist. to nearest city   |  |  |  |  |  |  |  |  |  |
| L.16 | ➤ Material source, disposal areas, stockpile sites, staging areas, storage areas, water sources, etc. identified  |  |  |  |  |  |  |  |  |  |
|      | <b><u>CONVENTIONAL PLAN SYMBOLS AND ABBREVIATIONS</u></b>   |  |  |  |  |  |  |  |  |  |
| L.17 | Current edition   |  |  |  |  |  |  |  |  |  |

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|----------|--|--|--|------------|--|------------|--|------------|--------------------------------|------------|
|          |  |  | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |

|     |  |  |  |  |  |  |  |  |  |  |
|-----|--|--|--|--|--|--|--|--|--|--|
|     |  |  |  |  |  |  |  |  |  |  |
|     |  | <b>SECTION B</b>   |  |  |  |  |  |  |  |  |
|     |  | <b><u>SUMMARY OF QUANTITIES</u></b>  |  |  |  |  |  |  |  |  |
| M.1 |  | Allowances take into consideration recommendations of Project Development Design Manual <i>and</i> accuracy of estimated quantities. |  |  |  |  |  |  |  |  |
| M.2 |  | Plan quantity totals match support documentation in the Design Book.   |  |  |  |  |  |  |  |  |
| M.3 |  | Items of work paid for under the contract quantity (CQ) provisions on Section 109 are identified.                                    |  |  |  |  |  |  |  |  |
| M.4 |  | Appropriate column headings labeled  |  |  |  |  |  |  |  |  |

| COMMENTS |  |  | Preliminary Design (30%)<br>LINE & GRADE |            | Intermediate Design (50%)<br>FOR PERMITS & ROW |            | Plan-in-Hand (70%)<br>DRAFT PS&E PACKAGE |            | Final PS&E (95%)<br>FINAL PS&E |            |
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|          |  |  | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |

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|      |  | <b>SECTION C</b>  |  |  |  |  |  |  |  |  |
|      |  | <b><u>TYPICAL SECTION(S)</u></b>  |  |  |  |  |  |  |  |  |
| N.1  |  | Typical Section(s) (Include separate typical sections for each differing type of work as needed i.e., subexcavation, 3R section, guardrail, etc.) |  |  |  |  |  |  |  |  |
| N.2  |  | ➤ Profile grade point   |  |  |  |  |  |  |  |  |
| N.3  |  | ➤ Roadway width(s) (traveled way, extra lanes, median, shoulder, total subgrade, surfacing slopes, ditch, etc.)                                   |  |  |  |  |  |  |  |  |
| N.4  |  | ➤ Crown, surfacing slopes, ditch slopes, typical cut and fill slopes, other special slopes and dimensions as needed.                              |  |  |  |  |  |  |  |  |
| N.5  |  | ➤ Number of pavement lifts required   |  |  |  |  |  |  |  |  |
| N.6  |  | ➤ Proposed pavement structure shown. "Bubble" detail used to clarify complex pavement structures.   |  |  |  |  |  |  |  |  |
| N.7  |  | ➤ Clearing - seeding limits (lateral pay limits clearly shown)  |  |  |  |  |  |  |  |  |
| N.8  |  | ➤ Identify the typical section as "Mainline", the roadway name, or a specific approach road, along with appropriate station ranges.               |  |  |  |  |  |  |  |  |
| N.9  |  | ➤ Subexcavation structural details  |  |  |  |  |  |  |  |  |
| N.10 |  | ➤ Use full bid schedule item name to call out pavement structure features.  |  |  |  |  |  |  |  |  |
| N.11 |  | PST recommendations incorporated  |  |  |  |  |  |  |  |  |
| N.12 |  | Slope rounding details<br>Note: Verify impacts of rounding (wetland, tree line, etc.).  |  |  |  |  |  |  |  |  |
| N.13 |  | Widening tables (Such as curve widening and rock fall ditches, etc), notes, or details as appropriate   |  |  |  |  |  |  |  |  |
| N.14 |  | Include appropriate notes as outlined under WFLHD procedure 9.6.A-1   |  |  |  |  |  |  |  |  |
| N.15 |  | Typical section matches criteria and exceptions listed on WFLHD-3 (Western Federal Lands Highway Division Highway Design Standards)               |  |  |  |  |  |  |  |  |

| COMMENTS |  |  | Preliminary Design (30%)<br>LINE & GRADE |            | Intermediate Design (50%)<br>FOR PERMITS & ROW |            | Plan-in-Hand (70%)<br>DRAFT PS&E PACKAGE |            | Final PS&E (95%)<br>FINAL PS&E |            |
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|          |  |  | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |

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|      |  | <b>SECTION D</b>  |  |  |  |  |  |  |  |  |
|      |  | <b><u>PLAN &amp; PROFILE SUMMARY TABLES</u></b>   |  |  |  |  |  |  |  |  |
|      |  | Overall Earthwork Summary Table (usually on a separate sheet at the beginning of the Plan and Profile Section.) All relevant earthwork quantities included: |  |  |  |  |  |  |  |  |
| O.1  |  | ➤ Prism excavation and embankment   |  |  |  |  |  |  |  |  |
| O.2  |  | ➤ Topsoil stripping from cut/fill areas   |  |  |  |  |  |  |  |  |
| O.3  |  | ➤ Approach Roads  |  |  |  |  |  |  |  |  |
| O.4  |  | ➤ Unsuitable materials  |  |  |  |  |  |  |  |  |
| O.5  |  | ➤ Materials in the prism excavation conserved for other uses (riprap, materials sources, etc.)  |  |  |  |  |  |  |  |  |
| O.6  |  | ➤ Suitable material generated from retaining walls, special drainage work, etc., that is otherwise unaccounted for  |  |  |  |  |  |  |  |  |
| O.7  |  | ➤ Correlation with plan-profile stationing (left or right, etc.)  |  |  |  |  |  |  |  |  |
| O.8  |  | ➤ Excavation and embankment for temporary traffic control widening considered in quantities   |  |  |  |  |  |  |  |  |
| O.9  |  | ➤ Quantities agree with Geopak design data printouts or hand calculations   |  |  |  |  |  |  |  |  |
| O.10 |  | ➤ Applicable footnotes included for topsoil, widening, aprons, turnouts, catch basins, etc.)  |  |  |  |  |  |  |  |  |
|      |  | Related summary tables such as:   |  |  |  |  |  |  |  |  |
| O.11 |  | ➤ Clearing and grubbing   |  |  |  |  |  |  |  |  |
| O.12 |  | ➤ Placing conserved topsoil   |  |  |  |  |  |  |  |  |
| O.13 |  | ➤ Revegetation (Seeding/mulching)   |  |  |  |  |  |  |  |  |
| O.14 |  | ➤ Geotextiles (if not included elsewhere)   |  |  |  |  |  |  |  |  |
| O.15 |  | ➤ Obliteration of old roadways (if not included elsewhere)  |  |  |  |  |  |  |  |  |
|      |  | <b><u>PLAN VIEW</u></b>   |  |  |  |  |  |  |  |  |
| P.1  |  | Avoid dividing major structures, highway intersections, interchanges, or grade separations between sheets.  |  |  |  |  |  |  |  |  |
| P.2  |  | Beginning and end of work (stations, elevations, and coordinates shown)   |  |  |  |  |  |  |  |  |
| P.3  |  | Utility ownerships and phone numbers shown  |  |  |  |  |  |  |  |  |

| COMMENTS |  |  | Preliminary Design (30%)<br>LINE & GRADE |            | Intermediate Design (50%)<br>FOR PERMITS & ROW |            | Plan-in-Hand (70%)<br>DRAFT PS&E PACKAGE |            | Final PS&E (95%)<br>FINAL PS&E |            |
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|          |  |  | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |
| P.4      |  | “Line as Staked and to be Constructed” note or “Line to be Constructed” according to 152 requirements.   |  |            |  |            |  |            |                                |            |
| P.5      |  | Edge of existing pavement shown if applicable  |  |            |  |            |  |            |                                |            |
| P.6      |  | Slope stake limits shown.  |  |            |  |            |  |            |                                |            |
| P.7      |  | Right-of-way limits and easements are shown. Identify all ownerships for right of way purposes.  |  |            |  |            |  |            |                                |            |
| P.8      |  | Curve data, stationing, and bearings shown   |  |            |  |            |  |            |                                |            |
| P.9      |  | Superelevation rate shown for each curve   |  |            |  |            |  |            |                                |            |
| P.10     |  | Use CP symbol and symbol name on plan. Coordinates and elevations usually shown in Control Point table.  |  |            |  |            |  |            |                                |            |
| P.11     |  | Graphically show proposed locations of culvert pipe (with skew), guardrail, walls, and other proposed work items. Curbing is optional however represent graphically if primary item of work. If item is shown in profile, no note is needed in plan view. Include reference to other sections in note if applicable. |  |            |  |            |  |            |                                |            |
| P.12     |  | Existing features such as streams, lakes, buildings, bridges, signs, fences, utilities and other relevant culture shown and labeled as appropriate   |  |            |  |            |  |            |                                |            |
| P.13     |  | Connection details shown and referenced  |  |            |  |            |  |            |                                |            |
| P.14     |  | Road approaches shown (location symbol with type, width, and grade)  |  |            |  |            |  |            |                                |            |
| P.15     |  | Bridge sites shown and cross-referenced to bridge plans  |  |            |  |            |  |            |                                |            |
| P.16     |  | Show companion sites (turnouts, parking areas, etc.) mainline stationing, centerline, outline, and slope stake limits.   |  |            |  |            |  |            |                                |            |
| P.17     |  | Show removal items as a note and show in table as applicable   |  |            |  |            |  |            |                                |            |
| P.18     |  | Show Roadway obliteration with a note and show in table as applicable  |  |            |  |            |  |            |                                |            |
| P.19     |  | Riprap symbology shown   |  |            |  |            |  |            |                                |            |
|          |  | <b><u>PROFILE VIEW</u></b>   |  |            |  |            |  |            |                                |            |
| Q.1      |  | Grid elevations labeled. Profile breaks included as needed.  |  |            |  |            |  |            |                                |            |

| COMMENTS |  |  | Preliminary Design (30%)<br>LINE & GRADE |            | Intermediate Design (50%)<br>FOR PERMITS & ROW |            | Plan-in-Hand (70%)<br>DRAFT PS&E PACKAGE |            | Final PS&E (95%)<br>FINAL PS&E |            |
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|          |  |  | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |
| Q.2      |  | Existing ground lines and new profile grade shown and labeled.   |  |            |  |            |  |            |                                |            |
| Q.3      |  | Beginning and end of work (stations and elevations) matches plan view.   |  |            |  |            |  |            |                                |            |
| Q.4      |  | VPI information and grades shown.  |  |            |  |            |  |            |                                |            |
| Q.5      |  | Special ditches, subexcavations, and underdrains shown in bar graph. Show exact stations, lengths, elevations, and other information in table summary. |  |            |  |            |  |            |                                |            |
| Q.6      |  | Unadjusted excavation and embankment quantities shown along bottom of sheet. Break the earthwork bars at the end of a cut or fill run.                 |  |            |  |            |  |            |                                |            |
| Q.7      |  | Show Bridges and major structure outline only in the proper location and reference to appropriate drawings.  |  |            |  |            |  |            |                                |            |
| Q.8      |  | Culvert size and end treatments shown. Position agrees with plan   |  |            |  |            |  |            |                                |            |
| Q.9      |  | Hydraulic information [Q50 and HW/D] shown for large culverts (1200 mm (48") and larger)   |  |            |  |            |  |            |                                |            |
|          |  | Location bars along top of profile:  |  |            |  |            |  |            |                                |            |
| Q.10     |  | ➤ Guardrail and end treatments   |  |            |  |            |  |            |                                |            |
| Q.11     |  | ➤ Bituminous curbs and inlets/outlets  |  |            |  |            |  |            |                                |            |
| Q.12     |  | ➤ Fences and gates (only if not shown on the plan or in a separate section of the plans).  |  |            |  |            |  |            |                                |            |

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|      |  | <b>SECTION E (if applicable)</b>   |  |  |  |  |  |  |  |  |
|      |  | <b><u>ROAD APPROACHES</u></b>  |  |  |  |  |  |  |  |  |
|      |  | <u>Major approach roads</u> (those needing plan and profile sheet)   |  |  |  |  |  |  |  |  |
| R.1  |  | ➤ Plan and profile sheets meet same requirements as for mainline sheets  |  |  |  |  |  |  |  |  |
| R.2  |  | ➤ Typical section identified (detail shown on sheet if not cross-referenced to other detail)   |  |  |  |  |  |  |  |  |
| R.3  |  | ➤ Cross reference to mainline stationing is correct  |  |  |  |  |  |  |  |  |
| R.4  |  | ➤ Profile grade matches mainline grade and superelevation rate.  |  |  |  |  |  |  |  |  |
| R.5  |  | ➤ Radii adequate for intended use of the approach  |  |  |  |  |  |  |  |  |
| R.6  |  | ➤ Drainage adequate  |  |  |  |  |  |  |  |  |
| R.7  |  | ➤ Quantities shown on sheet or in overall approach road summary table  |  |  |  |  |  |  |  |  |
|      |  | <u>Minor Approach Roads</u>  |  |  |  |  |  |  |  |  |
| R.8  |  | ➤ Current standard drawings/conventional drawings included   |  |  |  |  |  |  |  |  |
| R.9  |  | ➤ Approach road symbol on mainline plan is correct (station, type, and grade)  |  |  |  |  |  |  |  |  |
| R.10 |  | ➤ Widths and radii dimensioned and referenced  |  |  |  |  |  |  |  |  |
| R.11 |  | Approach road details match agreements contained in the right-of-way agreements with each landowner.   |  |  |  |  |  |  |  |  |
| R.12 |  | Parking area plans checked for sufficient turning and back-up movement widths. Sufficient stall and island widths.   |  |  |  |  |  |  |  |  |
| R.13 |  | Provide elevations and coordinate for critical points within parking areas, if centerline and staking notes area not provided. Include note stating, "Elevations shown are to finished grade unless otherwise noted" |  |  |  |  |  |  |  |  |
| R.14 |  | ADA requirements considered in parking area designs.   |  |  |  |  |  |  |  |  |

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|     |  | <b>SECTION F (if applicable)</b>   |  |  |  |  |  |  |  |  |
|     |  | <b><u>EROSION CONTROL PLAN</u></b>   |  |  |  |  |  |  |  |  |
|     |  | Special drawings included of plan layout for entire project. (Same layout as plan view from the P&P sheets - two plan views per sheet) |  |  |  |  |  |  |  |  |
| S.1 |  | ➤ Existing culture   |  |  |  |  |  |  |  |  |
| S.2 |  | ➤ Existing contours and all existing drainage features shown   |  |  |  |  |  |  |  |  |
| S.3 |  | ➤ Proposed roadway centerline and all approach roads   |  |  |  |  |  |  |  |  |
| S.4 |  | ➤ Staking or clearing limits   |  |  |  |  |  |  |  |  |
| S.5 |  | ➤ All proposed drainage structures, ditches, etc. shown  |  |  |  |  |  |  |  |  |
| S.6 |  | ➤ All temporary erosion control measures noted   |  |  |  |  |  |  |  |  |
| S.7 |  | Drawings match NPDES permit requirements   |  |  |  |  |  |  |  |  |

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|      |  | <b>SECTION G (if applicable)</b>   |  |  |  |  |  |  |  |  |
|      |  | <b><u>MATERIAL SOURCES AND/OR DISPOSAL AREAS</u></b>   |  |  |  |  |  |  |  |  |
| T.1  |  | Source number and reference to geotechnical report   |  |  |  |  |  |  |  |  |
| T.2  |  | Survey control (Base line) shown   |  |  |  |  |  |  |  |  |
| T.3  |  | Location of borings shown  |  |  |  |  |  |  |  |  |
| T.4  |  | Source development boundary shown  |  |  |  |  |  |  |  |  |
| T.5  |  | Show boundaries of main extraction area.   |  |  |  |  |  |  |  |  |
|      |  | Source development typical section(s) as applicable  |  |  |  |  |  |  |  |  |
| T.6  |  | <ul style="list-style-type: none"> <li>Original ground line and finished grade line. Include benching requirements.</li> </ul> |  |  |  |  |  |  |  |  |
| T.7  |  | <ul style="list-style-type: none"> <li>Maximum final slopes ratio, provision for drainage, etc.</li> </ul>                     |  |  |  |  |  |  |  |  |
| T.8  |  | <ul style="list-style-type: none"> <li>Stripping notes</li> </ul>  |  |  |  |  |  |  |  |  |
| T.9  |  | <ul style="list-style-type: none"> <li>Seeding plan</li> </ul>   |  |  |  |  |  |  |  |  |
| T.10 |  | Show appropriate contours  |  |  |  |  |  |  |  |  |
| T.11 |  | Disposal/stockpile of overburden   |  |  |  |  |  |  |  |  |
| T.12 |  | Source development & rehab information consistent with Geotechnical Report.  |  |  |  |  |  |  |  |  |

| COMMENTS |  |  | Preliminary Design (30%)<br>LINE & GRADE |            | Intermediate Design (50%)<br>FOR PERMITS & ROW |            | Plan-in-Hand (70%)<br>DRAFT PS&E PACKAGE |            | Final PS&E (95%)<br>FINAL PS&E |            |
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|      |  | <b>SECTION H (if applicable)</b>  |  |  |  |  |  |  |  |  |
|      |  | <b><u>SUMMARY OF DRAINAGE QUANTITIES</u></b>  |  |  |  |  |  |  |  |  |
| U.1  |  | Estimated maximum cover shown   |  |  |  |  |  |  |  |  |
| U.2  |  | Estimated structural excavation   |  |  |  |  |  |  |  |  |
| U.3  |  | End treatments shown (end section, drop inlet, elbow, etc.)   |  |  |  |  |  |  |  |  |
| U.4  |  | Outlet treatment shown (riprap, etc.)   |  |  |  |  |  |  |  |  |
| U.5  |  | Alternate materials indicated (e.g. aluminum, plastic, concrete)  |  |  |  |  |  |  |  |  |
| U.6  |  | Using current version of standard Tabulation of Drainage spreadsheet  |  |  |  |  |  |  |  |  |
| U.7  |  | Temporary culvert/diversion channels included for maintenance of flow of all live streams.  |  |  |  |  |  |  |  |  |
| U.8  |  | Underdrain included in table (may be a separate summary table elsewhere depending on quantity)  |  |  |  |  |  |  |  |  |
| U.9  |  | Small culvert designs consistent with PDDM recommendations  |  |  |  |  |  |  |  |  |
|      |  | <b>Major drainage culverts</b> (1200 mm [48"] or greater) and fish passage culverts:  |  |  |  |  |  |  |  |  |
| U.10 |  | ➤ Hydraulic recommendations followed (hydraulic information, slope, length, and invert elevations shown on plan/profile)                |  |  |  |  |  |  |  |  |
| U.11 |  | ➤ Headwalls (concrete or riprap) provided for all culverts 1200 mm or larger. Quantities shown. Standard drawings referenced as needed. |  |  |  |  |  |  |  |  |
| U.12 |  | ➤ Drawings agree with permit requirements   |  |  |  |  |  |  |  |  |
| U.13 |  | ➤ Estimated informational quantities shown .  |  |  |  |  |  |  |  |  |
| U.14 |  | ➤ Show skew angle measure from a line perpendicular to centerline.  |  |  |  |  |  |  |  |  |
|      |  | <b>Riprap and outlet control system details</b>   |  |  |  |  |  |  |  |  |
| U.15 |  | ➤ Estimated quantities shown  |  |  |  |  |  |  |  |  |
| U.16 |  | ➤ Class of riprap per hydraulic recommendations   |  |  |  |  |  |  |  |  |
| U.17 |  | ➤ Geotextiles shown and proper type specified   |  |  |  |  |  |  |  |  |

| COMMENTS |  |  | Preliminary Design (30%)<br>LINE & GRADE |            | Intermediate Design (50%)<br>FOR PERMITS & ROW |            | Plan-in-Hand (70%)<br>DRAFT PS&E PACKAGE |            | Final PS&E (95%)<br>FINAL PS&E |            |
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|     |  | <b>SECTION I (if applicable)</b>  |  |  |  |  |  |  |  |  |
|     |  | <b><u>GUARDRAIL</u></b>   |  |  |  |  |  |  |  |  |
| V.1 |  | Constructible details included (paving to the face of the post, base materials beyond, etc) |  |  |  |  |  |  |  |  |

| COMMENTS |  |  | Preliminary Design (30%)<br>LINE & GRADE |            | Intermediate Design (50%)<br>FOR PERMITS & ROW |            | Plan-in-Hand (70%)<br>DRAFT PS&E PACKAGE |            | Final PS&E (95%)<br>FINAL PS&E |            |
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|     |  | <b>SECTION J (if applicable)</b>  |  |  |  |  |  |  |  |  |
|     |  | <b><u>FENCES, GATES &amp; CATTLE GUARDS</u></b>   |  |  |  |  |  |  |  |  |
| W.1 |  | Special drawing included showing fence details (if different than standard details). Other current standard drawings/conventional details included. |  |  |  |  |  |  |  |  |
| W.2 |  | Fencing, gate, and cattle guard details match agreements contained in the right-of-way agreements with each landowner.                              |  |  |  |  |  |  |  |  |

| COMMENTS |  |  | Preliminary Design (30%)<br>LINE & GRADE |            | Intermediate Design (50%)<br>FOR PERMITS & ROW |            | Plan-in-Hand (70%)<br>DRAFT PS&E PACKAGE |            | Final PS&E (95%)<br>FINAL PS&E |            |
|----------|--|--|--|------------|--|------------|--|------------|--------------------------------|------------|
|          |  |  | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |

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|     |  | <b>SECTION K (if applicable)</b>  |  |  |  |  |  |  |  |  |
|     |  | <b>MISCELLANEOUS</b>  |  |  |  |  |  |  |  |  |
|     |  | <b><u>RETAINING WALLS</u></b>   |  |  |  |  |  |  |  |  |
|     |  | Special drawings included showing:  |  |  |  |  |  |  |  |  |
| X.1 |  | ➤ Horizontal relationship to roadway centerline (if not shown elsewhere)  |  |  |  |  |  |  |  |  |
| X.2 |  | ➤ Typical cross sections, showing excavation limits, special backfill zones, geotextiles, etc.                                    |  |  |  |  |  |  |  |  |
| X.3 |  | ➤ Vertical elevation of the face of the wall in relationship to the profile grade, including stationing and elevations.           |  |  |  |  |  |  |  |  |
| X.4 |  | ➤ General wall details (may be standard/conventional detail drawings)   |  |  |  |  |  |  |  |  |
| X.5 |  | ➤ Special wall details applicable to this specific project  |  |  |  |  |  |  |  |  |
| X.6 |  | Guardrail installation considered in wall design/layout   |  |  |  |  |  |  |  |  |
| X.7 |  | Temporary traffic control considered in wall design/layout. (Details may be contained in the Temporary Traffic Control Section)   |  |  |  |  |  |  |  |  |
| X.8 |  | Informational quantities included.  |  |  |  |  |  |  |  |  |
|     |  | <b><u>SPECIAL SLOPE DESIGNS</u></b>   |  |  |  |  |  |  |  |  |
|     |  | Special drawings included showing:  |  |  |  |  |  |  |  |  |
| Y.1 |  | ➤ Horizontal relationship to roadway centerline (if not shown elsewhere)  |  |  |  |  |  |  |  |  |
| Y.2 |  | ➤ Typical cross-sections, showing excavation limits, rock buttresses, rock blankets, catch basins, special drainage details, etc. |  |  |  |  |  |  |  |  |
| Y.3 |  | ➤ Stationing agrees with plan and profile sheets.   |  |  |  |  |  |  |  |  |
| Y.4 |  | ➤ Bridge scour countermeasures, such as riprap shown, if not provided elsewhere.  |  |  |  |  |  |  |  |  |

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|----------|--|--|--|---------------|--|---------------|--|---------------|--------------------------------|---------------|
|          |  |  | AS<br>DESIGNED                           | AS<br>REVISED | AS<br>DESIGNED                                 | AS<br>REVISED | AS<br>DESIGNED                           | AS<br>REVISED | AS<br>DESIGNED                 | AS<br>REVISED |

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|     |  | <b>SECTION M (if applicable)</b>                              |  |  |  |  |  |  |  |  |
|     |  | <b><u>LANDSCAPING PLANS</u></b>                               |  |  |  |  |  |  |  |  |
| Z.1 |  | Other agency drawings match WFLHD's Standard Format for Plans |  |  |  |  |  |  |  |  |

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|----------|--|---|--|------------|--|------------|--|------------|--------------------------------|------------|
|          |  |   | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |
|          |  | <b>SECTION N (if applicable)</b>  |  |            |  |            |  |            |                                |            |
|          |  | <b><u>TEMPORARY TRAFFIC CONTROL</u></b>   |  |            |  |            |  |            |                                |            |
| AA.1     |  | Project termini signing included  |  |            |  |            |  |            |                                |            |
| AA.2     |  | Special detour signing plan (if needed)   |  |            |  |            |  |            |                                |            |
| AA.3     |  | Special one-lane road signing plan (if needed)  |  |            |  |            |  |            |                                |            |
| AA.4     |  | All sign symbols defined  |  |            |  |            |  |            |                                |            |
| AA.5     |  | Sign designations conform to MUTCD. If not, special details are included or referenced for each special sign.   |  |            |  |            |  |            |                                |            |
| AA.6     |  | Temporary striping quantities consistent with special contract requirements   |  |            |  |            |  |            |                                |            |
| AA.7     |  | Necessary regulatory speed adjustments during the construction phase have been adequately addressed   |  |            |  |            |  |            |                                |            |
| AA.8     |  | Application of temporary concrete barriers vs. a series of drums or cones considered.   |  |            |  |            |  |            |                                |            |
| AA.9     |  | Fillets of backfill requirements at pavement drop-off locations spelled out.  |  |            |  |            |  |            |                                |            |
| AA.10    |  | Approval obtained from other agencies for construction signs within their jurisdictions.  |  |            |  |            |  |            |                                |            |
| AA.11    |  | High-level warning devices (flags and/or warning lights) provided for advance detour signing or other special construction circumstances.   |  |            |  |            |  |            |                                |            |
| AA.12    |  | Pedestrian and bicycle signing and traffic control devices considered.  |  |            |  |            |  |            |                                |            |
| AA.14    |  | Sign Quantity for multiple set-ups and stages accounted for (signing, devices, striping, etc.)  |  |            |  |            |  |            |                                |            |
| AA.15    |  | Install signs according to Detail WM635-2 and Part 6 of the "Manual on Uniform Traffic Control Devices (MUTCD)", 2000 Millennium Edition, December 200, including Errata No. 1 dated June 14, 2001. Revise note according to latest edition used in design. |  |            |  |            |  |            |                                |            |
| AA.16    |  | Temporary concrete barriers designed with proper flare rates and offsets to terminal ends.  |  |            |  |            |  |            |                                |            |

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|----------|--|--|--|------------|--|------------|--|------------|--------------------------------|------------|
|          |  |  | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |

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|       |  | <b>SECTION O (if applicable)</b>   |  |  |  |  |  |  |  |  |
|       |  | <b>PERMANENT TRAFFIC CONTROL</b>   |  |  |  |  |  |  |  |  |
|       |  | <b><u>PERMANENT SIGNING</u></b>  |  |  |  |  |  |  |  |  |
| BB.1  |  | Special drawings included showing plan centerline stationing with each permanent sign located and identified.  |  |  |  |  |  |  |  |  |
| BB.2  |  | All sign symbols defined   |  |  |  |  |  |  |  |  |
| BB.3  |  | Permanent sign locations can physically be placed where indicated  |  |  |  |  |  |  |  |  |
| BB.4  |  | All sign installations within the clear zone are break-away or shielded with guardrail   |  |  |  |  |  |  |  |  |
| BB.5  |  | Furnish and install signs meeting the requirements of the latest edition of the "Manual on Uniform Traffic Control Devices (MUTCD)", "Standard Highway Signs" Book. Add Forest Service, Park Service or any other sign reference that you used to develop permanent traffic control. |  |  |  |  |  |  |  |  |
| BB.6  |  | Location of No Passing zones shown in table format or on a plan view of the alignment.   |  |  |  |  |  |  |  |  |
| BB.7  |  | Plan shows typical striping details (width, spacing, etc.)   |  |  |  |  |  |  |  |  |
| BB.8  |  | Plan shows special pavement marking details (stop bars, cross walks, arrows, etc.)   |  |  |  |  |  |  |  |  |
| BB.9  |  | Allowance made for two applications as described in Subsection 634.13  |  |  |  |  |  |  |  |  |
| BB.10 |  | Incorporate any special signing from client agencies.  |  |  |  |  |  |  |  |  |

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|----------|--|--|--|------------|--|------------|--|------------|--------------------------------|------------|
|          |  |  | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |

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|       |  | <b>SECTION P (if applicable)</b>                           |  |  |  |  |  |  |  |  |
|       |  | <b><u>BRIDGE PLANS</u></b>                                 |  |  |  |  |  |  |  |  |
| CC.1  |  | Stationing, superelevation, and grade match plan & profile |  |  |  |  |  |  |  |  |
| CC.2  |  | Bridge quantities shown – contract quantities identified   |  |  |  |  |  |  |  |  |
| CC.3  |  | Hydraulic information shown                                |  |  |  |  |  |  |  |  |
| CC.4  |  | Standard bridge loading and bridge width provided          |  |  |  |  |  |  |  |  |
| CC.5  |  | Concrete Strength Consistent with SCR                      |  |  |  |  |  |  |  |  |
|       |  | Riprap details:  |  |  |  |  |  |  |  |  |
| CC.6  |  | ➤ Class of riprap per hydraulic recommendations            |  |  |  |  |  |  |  |  |
| CC.7  |  | ➤ Placement dimensions per hydraulic recommendations       |  |  |  |  |  |  |  |  |
| CC.8  |  | ➤ Geotextiles shown and proper type specified              |  |  |  |  |  |  |  |  |
| CC.9  |  | ➤ Quantities shown   |  |  |  |  |  |  |  |  |
| CC.10 |  | Guardrail/bridge rail pay lengths clearly shown            |  |  |  |  |  |  |  |  |

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|----------|--|--|--|------------|--|------------|--|------------|--------------------------------|------------|
|          |  |  | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |

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|-------|--|--|--|--|--|--|--|--|--|--|
|       |  | <b>SPECIAL CONTRACT REQUIREMENTS</b>   |  |  |  |  |  |  |  |  |
| DD.1  |  | SCR is the latest edition in the Library of Specifications   |  |  |  |  |  |  |  |  |
| DD.2  |  | All cross references are correct   |  |  |  |  |  |  |  |  |
| DD.3  |  | Use Active Voice imperative mood   |  |  |  |  |  |  |  |  |
| DD.4  |  | Check Measurement with how quantity is calculated.   |  |  |  |  |  |  |  |  |
| DD.5  |  | Define in Measurement, how items are measured for payment.   |  |  |  |  |  |  |  |  |
| DD.6  |  | Check items with structural excavation to determine if Section 208 or 209 should be referenced.                            |  |  |  |  |  |  |  |  |
| DD.7  |  | Check sampling and testing tables for correct item descriptions and applicable tests                                       |  |  |  |  |  |  |  |  |
| DD.8  |  | Material specifications cited for all unique materials not contained in the FP standard specifications                     |  |  |  |  |  |  |  |  |
| DD.9  |  | Hauling and access restrictions or requirements spelled out. Any imposed weight limits have been verified with the client. |  |  |  |  |  |  |  |  |
| DD.10 |  | Rush hour, holiday weekends, or night restrictions/requirements spelled out. Need for noncompliance penalty considered.    |  |  |  |  |  |  |  |  |
| DD.11 |  | Required advance notice for lane or roadway closures spelled out.  |  |  |  |  |  |  |  |  |
| DD.12 |  | Seed type, rates, and seeding seasons coordinated with client for permanent and temporary seeding.                         |  |  |  |  |  |  |  |  |
| DD.13 |  | Stone masonry type, class, size, roughness, etc. coordinated with State DOT or Park if necessary                           |  |  |  |  |  |  |  |  |
| DD.14 |  | Utility coordination details   |  |  |  |  |  |  |  |  |
| DD.15 |  | Lump sum pay items clearly identify and describe the work included   |  |  |  |  |  |  |  |  |

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|----------|--|---|--|------------|--|------------|--|------------|--------------------------------|------------|
|          |  |   | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |
| DD.16    |  | Check acceptance on all items:<br>➤ 106.02 Visual Inspection<br>➤ 106.03 Certification<br>➤ 106.04 Measured & Tested for Conformance<br>➤ 106.05 Statistical Evaluation |  |            |  |            |  |            |                                |            |
| DD.17    |  | 101 Terms – appropriate State holidays included   |  |            |  |            |  |            |                                |            |
|          |  | 105 Control of Materials  |  |            |  |            |  |            |                                |            |
| DD.18    |  | ➤ Materials sources clearly identified as “optional” or “mandatory”.  |  |            |  |            |  |            |                                |            |
| DD.19    |  | ➤ Sufficient staging area space for the Contractor to perform operations  |  |            |  |            |  |            |                                |            |
| DD.20    |  | ➤ Water sources clearances obtained.  |  |            |  |            |  |            |                                |            |
|          |  | 107 Legal Relations and Responsibility:   |  |            |  |            |  |            |                                |            |
| DD.21    |  | ➤ Contractor responsibilities clearly delineated with regard to known archaeological sites and endangered species.  |  |            |  |            |  |            |                                |            |
| DD.22    |  | ➤ Contractor coordination and/or advance notice with utilities clearly spelled out  |  |            |  |            |  |            |                                |            |
| DD.23    |  | ➤ Contractor coordination/requirements with other Contractors clearly spelled out.  |  |            |  |            |  |            |                                |            |
| DD.24    |  | ➤ Material sources have appropriate clearances  |  |            |  |            |  |            |                                |            |
| DD.25    |  | ➤ Restrictions for working within streams clearly spelled out   |  |            |  |            |  |            |                                |            |
| DD.26    |  | 108 Prosecution and Progress – Work limitations/restrictions clearly spelled out and/or referenced to other Sections of the SCRs.                                       |  |            |  |            |  |            |                                |            |
| DD.27    |  | 152 Survey and Staking – Staking requirements and basis of payment are clear. Items requiring staking iterations clearly identified                                     |  |            |  |            |  |            |                                |            |
| DD.28    |  | 152 Survey and Staking Responsibilities between Govt. and Contractor are clearly defined  |  |            |  |            |  |            |                                |            |
|          |  | 156 Public Traffic:   |  |            |  |            |  |            |                                |            |
| DD.29    |  | ➤ Requirements for accommodating public traffic clearly spelled out as well as limitations on the Contractor’s operations.  |  |            |  |            |  |            |                                |            |

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|----------|--|---|--|------------|--|------------|--|------------|--------------------------------|------------|
|          |  |   | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |
| DD.30    |  | ➤ Responsibility for maintenance during winter shut down clear.   |  |            |  |            |  |            |                                |            |
| DD.31    |  | ➤ Condition of roadway at winter shutdown is clear.   |  |            |  |            |  |            |                                |            |
|          |  | 157 Erosion Control:  |  |            |  |            |  |            |                                |            |
| DD.32    |  | ➤ Responsibility and payment for maintenance is clear and consistent with permits   |  |            |  |            |  |            |                                |            |
| DD.33    |  | ➤ Is turbidity monitoring necessary?  |  |            |  |            |  |            |                                |            |
| DD.34    |  | ➤ Is temporary turf addressed properly in type and quantity?  |  |            |  |            |  |            |                                |            |
| DD.35    |  | 158 List watering sources and applicable restrictions from permits.   |  |            |  |            |  |            |                                |            |
| DD.36    |  | 201 Clearing and Grubbing – Disposal of merchantable timber from National Forest/private lands clearly spelled out and in accordance with the ROW agreements.   |  |            |  |            |  |            |                                |            |
| DD.36    |  | 203 Removal of Structures and Obstructions – Removal and salvage requirements clearly spelled out, including locations to place the salvaged materials and contacts (name/phone number) as appropriate. |  |            |  |            |  |            |                                |            |
| DD.37    |  | 203 Check Environmental Documents and Permits for special requirements for disposing of material (203.05)   |  |            |  |            |  |            |                                |            |
| DD.38    |  | 204 Excavation and Embankment - Requirements for conserving and stockpiling topsoil clearly spelled out. Requirements for disposal of unsuitable/excess materials spelled out and waste site specified. |  |            |  |            |  |            |                                |            |
| DD.39    |  | 602 Match material requirements to available drainage material listed in the Summary of Drainage Sheets.  |  |            |  |            |  |            |                                |            |
| DD.40    |  | Section 700 – Material Specifications. Materials specifications cited for all unique materials not contained the FP Standard Specifications.  |  |            |  |            |  |            |                                |            |
| DD.41    |  | 718 Traffic Signing and Marking Material. High intensity sheeting for signs, barricades, drums, and cones considered for anticipated night work   |  |            |  |            |  |            |                                |            |
| DD.42    |  | Sole Source items identified and justifications prepared.   |  |            |  |            |  |            |                                |            |

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|----------|--|--|--|------------|--|------------|--|------------|--------------------------------|------------|
|          |  |  | AS DESIGNED                              | AS REVISED | AS DESIGNED                                    | AS REVISED | AS DESIGNED                              | AS REVISED | AS DESIGNED                    | AS REVISED |

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|      |  | <b>ESTIMATE</b>   |  |  |  |  |  |  |  |  |
| EE.1 |  | Estimate unit prices justified with supporting documentation (UPA, supplier quotes, etc.)   |  |  |  |  |  |  |  |  |
| EE.2 |  | Lump Sum amounts documented in the Design Book and reflect the work identified in the Lump Sum item.  |  |  |  |  |  |  |  |  |
| EE.3 |  | Incentive Pay Items identified and costs included in the estimate.  |  |  |  |  |  |  |  |  |
| EE.4 |  | Mathematical extensions of costs for each item and the overall total cost are correct.  |  |  |  |  |  |  |  |  |
| EE.5 |  | Construction estimate within program funds  |  |  |  |  |  |  |  |  |
|      |  |   |  |  |  |  |  |  |  |  |
|      |  | <b>CPM CONSTRUCTION SCHEDULE</b>  |  |  |  |  |  |  |  |  |
| FF.1 |  | Holidays and other non-work days identified and included in the schedule  |  |  |  |  |  |  |  |  |
| FF.2 |  | Environmental and permit restrictions/limitations/clearances included in the schedule, including off-project sources.   |  |  |  |  |  |  |  |  |
| FF.3 |  | Limitation of construction operations (Section 108) included in the schedule  |  |  |  |  |  |  |  |  |
| FF.4 |  | Weather limitations observed and included in the schedule. (priming and paving late in the construction season avoided, etc.)   |  |  |  |  |  |  |  |  |
| FF.5 |  | Time included for submittal review(s) and approval(s)   |  |  |  |  |  |  |  |  |
| FF.6 |  | Production rates documented in the project Design Book and/or included in the CPM notes   |  |  |  |  |  |  |  |  |
| FF.7 |  | Sequence of construction activities is logical. Series activities are broken into parallel activities with appropriate lag time where appropriate (i.e., grading may begin after sufficient clearing and grubbing is accomplished, even though all of the clearing and grubbing is not complete; placement of crushed aggregate base may begin after completion of a reasonable length of subgrade even though all of the subgrade is not complete, etc.) |  |  |  |  |  |  |  |  |
| FF.8 |  | Concrete curing times accounted for.  |  |  |  |  |  |  |  |  |

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|----------|--|---|--|---------------|--|---------------|--|---------------|--------------------------------|---------------|
|          |  |   | AS<br>DESIGNED                           | AS<br>REVISED | AS<br>DESIGNED                                 | AS<br>REVISED | AS<br>DESIGNED                           | AS<br>REVISED | AS<br>DESIGNED                 | AS<br>REVISED |
|          |  | <b>SIGNOFF PACKAGE</b>  |  |               |  |               |  |               |                                |               |
| GG.1     |  | Refer to Signoff Review Checklist   |  |               |  |               |  |               |                                |               |
|          |  |   |  |               |  |               |  |               |                                |               |
|          |  | <b>PE HOLD FILE</b>   |  |               |  |               |  |               |                                |               |
| GG.2     |  | Refer to PE HOLD File for Checklist   |  |               |  |               |  |               |                                |               |
| GG.3     |  | Check 10% of all construction staking notes.<br>Include in 10% Check turnout, parking areas,<br>and any other special widening. |  |               |  |               |  |               |                                |               |